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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,870	10/01/2004	Ulrich Cramer	HM-597PCT	4970

40570 7590 04/27/2006

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EXAMINER	
SUHOL, DMITRY	

ART UNIT	PAPER NUMBER
3725	

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/509,870	CRAMER ET AL.	
	Examiner	Art Unit	
	Dmitry Suhol	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/1/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Page 3, line 3 of the disclosure makes reference to the claims, this is inappropriate.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, there is no antecedent basis for "the spray tubes".

Regarding claim 3, there is no antecedent basis for "the neck of the pear shaped cross section".

Regarding claim 5, the phrase "or the like" renders the claim indefinite since the metes and bounds of the claim can not be established.

Regarding claim 6, the phrase "for example" renders the claim indefinite since the metes and bounds of the claim can not be established.

Regarding claim 8, there is no antecedent basis for "the end faces".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-7, 9, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038) in view of Miyaguchi (JP 11226625). Bender discloses an apparatus for cooling rolling stock containing most of the claimed elements, including with reference to claim 1, stationary water spray devices (8) installed below the rolling stock between rollers of a roller table (figure 3), and spray bars (3) held on support levers (21) are installed above the rolling stock (figure 1), the support levers being supported by a tubular, rotationally driven and water-fed articulated tube that extends parallel to the longitudinal axis of the roller table (figures 1 and 2), with a central water feed pipe and an automatic control device with associated on-off valves (4) for switching the cooling water on and off, the lower cooling bars being arranged with the closest possible spacing; of the are arranged below the spaces remaining between the rollers and that the spray tubes of the cooling bars fit into these spaces (figure 3). Limitations of claim 5 are shown in figures 1 and 2. A drive mechanism, as required by claims 6 and 7, is shown as element 15.

Bender fails to teach rollers having elongated pins of smaller diameter as required by claim 1. However, Miyaguchi discloses a cooling machine runout table which teaches rollers having elongated pins of smaller diameter to hold the rollers in the

frame of the rack (figures 1 and 3). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have manufacture the runout table of Bender with rollers having elongated pins of smaller diameter for the purpose of providing a reliable and costs effective way to support the rollers of the runout table in the associated framework.

Regarding claim 9, Miyaguchi further teaches use of straightedges (61) which may be advanced (through members 62, 64 and 65) towards stops (71) for the purpose of effectively conveying the metal strip along a runout table and shortening the cooling equipment thereby reducing costs of manufacturing.

Regarding claims 12-15, the claims are encompassed by the Bender reference due to the use of the term "preferably" in claim 12 which implies that such construction is not a requirement. Furthermore, for purposes of claims 12-15, spray tubes and associated nozzles of Bender read onto the current claims as they may be placed anywhere along the cooling table structure including the ends in order to emit longitudinal spay.

Claims 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038) and Miyaguchi (JP 11226625), as stated above, and further in view of Kamio et al '453. Bender, as modified by Miyaguchi above, teaches all of the claimed elements but for his cooling bar having a pear-shaped cross section with a neck and having spray tubes as required by claim 2 with an attached nozzle as required by claim 4. However, Kamio discloses a device like that of Bender which

teaches that it is known to manufacture the lower cooling portion with a header having a pear shape (figure 8) with a neck portion (5') and spray tubes (8b) attached to the neck portion with a nozzle attached to the spray tubes (8a). Therefor it would have been obvious to manufacture the lower cooling portion of Bender having the characteristics of Kamio, as stated above, for the purpose of providing uniform and efficient cooling of the metal stock.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038), Miyaguchi (JP 11226625), as stated above, and further in view of Nakada et al (JP 06-212278). Bender, as modified by Miyaguchi above, teaches all of the claimed elements but for his cooling bar having a pear-shaped cross section having a neck and spray tubes as required by claim 3. Nakada discloses a device like that of Bender which teaches a header in the shape of a pear (lacking and clear structural features read onto header 3 shown in figure 2) with a neck portion (portion 3b) and spray tubes (4) held by a interchangeable retaining strip (6). Therefore it would have been obvious to construct the lower cooling system of Bender with the above features of Nakada for the purpose of reducing maintenance work and produce a quality metallic plate.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038) and Miyaguchi (JP 11226625), as stated above, and further in view of Eguchi et al '759. Bender, as modified by Miyaguchi above, teaches all of the claimed

elements but guard plates as required by claim 8. However, Eguchi discloses a device for cooling metal product from the top and bottom which teaches that it is known to provide articulated splash guard plates (21) in front of the end plates of the top spray cooler (figure 1d). Therefore it would have been obvious to incorporate the splash plates of Eguchi with the device of Bender for the purpose of guarding from water splashing.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender et al (DE 19843038) and Miyaguchi (JP 11226625), as stated above, and further in view of Groch '056 and Schaming '047. Groch and is relied upon to teach that spay tubes provided in a cooling device like that of Bender is known to having structural features (funnel shape with a constricted ends) as required by claims 10 and 11 (figure 7B and 8), while Schaming is relied upon to teach that attachment of such spray nozzles is known to be carried out by a detachable plate (figure 6, plate 37). Therefore it would have been obvious to utilize the structural nozzles of Groch in an overhead cooling header of Bender along with the attachment means of Schaming for the purpose of providing an overhead cooling system which may be disassembled and reconfigured in a easy and simple manner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dmitry Suhol
Primary Examiner
Art Unit 3725

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